



CONTENTS of VOLUME 12 2003

Volume 12 No. 1 January 2003

MICHAEL J. FORD / Representing and Meaning in History and in Classrooms: Developing Symbols and Conceptual Organizations of Free-Fall Motion	1–25
MERCÈ IZQUIERDO-AYMERICH & AGUSTÍN ADÚRIZ-BRAVO / Epistemological Foundations of School Science	27–43
IGAL GALILI & MICHAEL TZEITLIN / Newton's First Law: Text, Translations, Interpretations and Physics Education	45–73
EDUARD GLAS / Educational Reform and the Birth of a Mathematical Community in Revolutionary France, 1790–1815	75–89
JOHN LEACH & PHIL SCOTT / Individual and Sociocultural Views of Learning in Science Education	91–113
RAVINDER KOUL / The Relevance of Public Image of Science in Science Education Policy and Practice	115–124
Contributors to this issue	125–126
<i>News</i>	
• Seventh IHPST Conference	127
• Second Hellenic Conference on HPS in Science Teaching	128
• Journal Reviewers	128–129

Volume 12 No. 2 February 2003

ROBERT NOLA / 'Naked Before Reality; Skinless Before the Absolute': A Critique of the Inaccessibility of Reality Argument in Constructivism	131–166
DAVID E. GOODNEY & CAROL S. LONG / The Collective Classic: A Case for the Reading of Science	167–184

WILLIAM J. ASTORE / Smart Warriors: A Rationale for Educating Air Force Academy Cadets in the History of Science, Technology, and Warfare	185–196
JEFF DODICK & NIR ORION / Geology as an Historical Science: Its Perception within Science and the Education System	197–211
ART STINNER & JÜRGEN TECIHMANN / Lord Kelvin and the Age-of-the-Earth Debate: A Dramatisation <i>News</i>	213–228
MICHAEL FOWLER / Galileo and Einstein: Using History to Teach Basic Physics to Nonscientists	229–231
Contributors to this issue	233–235

Volume 12 No. 3 April 2003

JOSTEIN SÄTHER / The Concept of Ideology in Analysis of Fundamental Questions in Science Education: A Review with Selected Examples from Norwegian Curricula and Textbooks	237–260
DAVID WÝSS RUDGE / The Role of Photographs and Films in Kettlewell's Popularisations of the Phenomenon of Industrial Melanism	261–287
EDWARD SLOWIK / Myth, Music, and Science: Teaching the Philosophy of Science through the Use of Non-Scientific Examples	289–302
PAUL HAGER, RAY SLEET, PETER LOGAN & MAL HOOPER / Teaching Critical Thinking in Undergraduate Science Courses	303–313
DOUGLAS ALLCHIN / Lawson's Shoehorn, or Should the Philosophy of Science be Rated 'X'?	315–329
ANTON E. LAWSON / Allchin's Shoehorn, or Why Science is Hypothetico-Deductive	331–337
Contributors to this issue	339–340

Volume 12 No. 4 May 2003

ALLISON Y. TAKAO & GREGORY J. KELLY / Assessment of Evidence in University Students' Scientific Writing	341–363
MIRIAM REINER & LIOR M. BURKO / On the Limitations of Thought Experiments in Physics and the Consequences for Physics Education	365–385
M. CECILIA POCOVI & FRED N. FINLEY / Historical Evolution of the Field View and Textbook Accounts	387–396

KEVIN C. DE BERG / The Development of the Theory of Electrolytic Dissociation: A Case Study of a Scientific Controversy and the Changing Nature of Chemistry	397-419
<i>News</i>	
P.R. ELLIS / It's a Breakthrough – An Account of New Resources for Schools	421-427
Contributors to this issue	429-430

Volume 12 Nos. 5-6 August 2003

MICHAEL R. MATTHEWS / Mario Bunge: Physicist and Philosopher	431-444
MARIO BUNGE / Twenty-Five Centuries of Quantum Physics: From Pythagoras to Us, and from Subjectivism to Realism	445-466
MASSIMO PAURI / Don't Ask Pythagoras about the Quantum	467-477
JOHN FORGE / Sharp and Blunt Values	479-493
JEAN-MARC LÉVY-LEBLOND / On the Nature of Quantons	495-502
ALBERTO CORDERO / Understanding Quantum Physics	503-511
ADRIAN HEATHCOTE / Quantum Heterodoxy: Realism at the Plank Length	513-529
MARCELLO CINI / How Real is the Quantum World?	531-540
ILEANA MARIA GRECA & OLIVAL FREIRE JR. / Does an Emphasis on the Concept of Quantum States Enhance Students' Understanding of Quantum Mechanics?	541-557
GESCHE POSPIECH / Philosophy and Quantum Mechanics in Science Teaching	559-571
OLIVAL FREIRE JR. / A Story Without an Ending: The Quantum Physics Controversy 1950-1970	573-586
MARIO BUNGE / Quantons are Quaint but Basic and Real, and the Quantum Theory Explains Much but not Everything: Reply to my Commentators	587-597
Contributors to this issue	599-601

Volume 12 No. 7 October 2003

GERALD HOLTON / What Historians of Science and Science Educators Can Do for One Another	603-616
ARTHUR STINNER, BARBARA A. MCMILLAN, DON METZ, JANA M. JILEK & STEPHEN KLASSEN / The Renewal of Case Studies in Science Education	617-643
RICARDO TRUMPER / The Physics Laboratory: A Historical Overview and Future Perspectives	645-670
KAI HAKKARAINEN / Can Cognitive Explanations be Eliminated?	671-689

IVAN A. SHIBLEY JR. / Using Newspapers to Examine the Nature of Science	691-702
JORDI SOLBES & MANEL TRAVER / Against a Negative Image of Science: History of Science and the Teaching of Physics and Chemistry	703-717
MORDECHAI BEN-ARI / The NOMA of Yishayahu Leibowitz	719-723
Contributors to this issue	725-727

Volume 12 No. 8 November 2003

JAMES R. HOFMANN & BRUCE H. WEBER / The Fact of Evolution: Implications for Science Education	729-760
CALVIN S. KALMAN & MARK W. AULLS / Can an Analysis of the Contrast Between pre-Galilean and Newtonian Theoretical Frameworks Help Students Develop a Scientific Mindset	761-772
RICHARD E. GRANDY / What Are Models and Why Do We Need Them?	773-777
GERALD HOLTON / The Project Physics Course, Then and Now	779-786
MANSOOR NIAZ, FOUAD ABD-EL-KHALICK, ALICIA BENARROCH, LIBERATO CARDELLINI, CARLOS E. LABURÚ, NICOLÁS MARÍN, LUIS A. MONTES, ROBERT NOLA, YURI ORLIK, LAWRENCE C. SCHARMANN, CHIN-CHUNG TSAI & GEORGIOS TSAPARLIS / Constructivism: Defense or a Continual Critical Appraisal – A Response to Gil-Pérez et al.	787-797
Contributors	799-802
Contents of Volume 12	803-806
Author Index	807-808

